



COMPARISON OF THE TWO ABRASION TESTS

THE CAMBRIDGE ABRASION MACHINE (CAM)

The abrasive belt on the CAM is driven at a fixed speed - 8 metres per second: equivalent to just under 18 mph.

Samples of motorcycle clothing are attached to a sample holder and this is dropped from a height of 50mm onto the moving belt. The belt is cleaned continuously by brushes and vacuum, so the point of contact remains clear of debris from the test sample.

The CAM identifies an absolute fail point: the abrasion of the test sample to an incontestable hole. The time taken for this to occur is recorded.

For Level 1 garments, the key areas of the suit must withstand at least 4 seconds of contact with the moving belt. For Level 2 garments, it is at least 7 seconds.

Areas of the garment which are at lower risk of abrasion have progressively lower abrasion resistance requirements, down to one second for Level 1 garments in areas like the inside of the thighs or underneath the arms; areas which seldom come into contact with the road, only do so lightly or do so in the final stages of a slide, so the contact period is reduced. This methodology ensures the most robust materials and constructions appear where they are required, but lighter materials can be incorporated in areas where they can assist flexibility and comfort, without increasing the risk of injury.

Critics claim:

The CAM is unreliable - machines at different test houses give wildly differing results, they say - but there is other evidence that the machine actually provides good repeatability and any errors might be due to a small number of test houses either not building or not calibrating their machines precisely as according to the standard.

The CAM is not the best test method for lighter weight fabrics commonly in use in motorcyclists' clothing, as it is "too aggressive".